

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte CHARLES B. MILLER

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Appeal No. 2000-1032  
Application No. 08/795,878

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ON BRIEF

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Before KIMLIN, GARRIS, and OWENS, Administrative Patent Judges.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the final rejection of claim 27 which is the sole claim remaining in the application.

The subject matter on appeal relates to a molten metal bath apparatus for decomposing carbon and hydrogen containing feed in order to produce H<sub>2</sub> and CO gas. The details of this apparatus are readily apparent from a study of appealed claim

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27 which reads as follows:

27. In a molten metal bath apparatus for decomposing carbon and hydrogen-containing feed and producing hydrogen, said apparatus comprising:

a gas-impermeable vessel having, a molten metal bath within the bottom of said vessel, means for defining a feed chamber within said vessel for dissolving carbon from said feed, an outlet means defining an outlet chamber within said vessel, a gas phase above said molten metal bath, a baffle means within said vessel having a lower portion in said molten metal bath and separating said feed chamber from said outlet chamber; the improvement comprising:

a burner within said vessel having a combustion chamber opening through a nozzle at one end of said burner, means for supplying an oxidant under pressure to said combustion chamber, means for supplying said carbon and hydrogen containing feed to said combustion chamber for combustion under pressure in said burner and for discharging products of combustion under pressure including carbon soot from said combustion chamber through said nozzle as a high velocity stream and means for directing said high velocity stream into said vessel, against said molten metal bath for causing penetration of said carbon soot therein, wherein said products of combustion further include at least  $\text{CO}_2$  and wherein said soot dissolves in said molten metal and said  $\text{CO}_2$  disassociates in the molten metal; molten metal circulates under said baffle means into the outlet chamber and therein produces  $\text{H}_2$  and CO recoverable for fuel gas or synthesis purposes, wherein said vessel is of upright U-shape in elevation having walls, wherein said burner is mounted to one end of said U-shaped vessel, with the nozzle thereof opening inwardly of the vessel, downwardly and discharging the products of combustion vertically downwardly so as to penetrate the surface of said molten metal bath in the bottom of the vessel, wherein an opposite end of said U-shaped vessel has coaxially coupled thereto a gas outlet line, and wherein the walls of said U-shaped vessel constitute said

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baffle means.

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The prior art set forth below is relied upon by the examiner

as evidence of obviousness:

Sullivan, Jr. (Sullivan) 1936	2,031,987	Feb. 25,
St. Pierre 1972	3,690,808	Sep. 12,
Okane et al. (Okane '084) 1983	4,388,084	Jun. 14,
Espedal 1985	4,527,997	Jul. 9,
Okane et al. (Okane '551) 1986	4,565,551	Jan. 21,
Obkircher 1987	4,681,599	Jul. 21,
Miller et al. (Miller) 1995	5,435,814	Jul. 25,
Reid 1991	5,069,715	Dec. 3,
Herforth 1987	GB 2 189 504 A	Oct. 28,

(published Great Britian Patent Application)

The admitted prior art described in the preamble of the Jepson claim on appeal.

Claim 27 stands rejected under 35 U.S.C. § 103 as being unpatentable over the admitted prior art taken with Miller, the British reference, Obkircher, Okane '084, Okane '551, St. Pierre, Sullivan, Reid and Espedal. In the paragraph bridging pages 4 and 5 of the answer, the examiner describes his position as follows:

The admitted state of the prior art in the specification alone [sic] with the Jepson style claim format taken with Miller et al. disclose molten metal bath apparatus comprising a vessel having a molten bath and having a top and bottom, a feed chamber and outlet means and gas phases above the molten metal bath with a baffle means defining separate gas phases, GB 2,189,504 and Obkircher further showing the use of baffles. It would have been obvious to a routineer in the art to provide the reactants via a top burner to the molten metal bath as shown by the Okane et al. patents and Pierre to be well known in the molten metal bath gasification art, Reid showing a similar burner and Espedal showing a prior art burner per se. It would have been obvious to a routineer in the art to shape the reactor as a "U-shaped" vessel, Pierre and Sullivan showing such a shape for a vessel including molten metal bath reactant chamber to be known per se. It would have been obvious to a routineer in the art to use any conventional material of construction including ceramic material for the reactor vessel. The use of an electrical induction coil which are well-known per se, for preheating the vessel would have been obvious.

This rejection cannot be sustained.

In his brief, the appellant emphasizes the distinctions of the here-claimed apparatus over the applied prior art. Moreover, the appellant argues that the examiner has "failed to provide a compelling incentive for one skilled in the art to combine the [applied] references in order to arrive at the present invention" (brief, page 10). This argument has merit as reflected by the examiner's above-quoted exposition in support of his obviousness conclusion. Indeed, the merit of

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this argument is highlighted by the fact that it has not been rebutted by the examiner in his answer.

In light of the forgoing, we are constrained to agree with the appellant that the examiner, in making and maintaining the Section 103 rejection before us, "ignores the full teaching of the references and only picks and chooses the necessary parts from the [references applied in the] rejection to piecemeal

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reconstruct the claimed invention based on applicants' [sic, applicant's] disclosure" (brief, page 11). This is impermissible under 35 U.S.C. § 103 as explained by the appellant in the brief. In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1599-1600 (Fed. Cir. 1988).

The decision of the examiner is reversed.

REVERSED

EDWARD C. KIMLIN	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
BRADLEY R. GARRIS	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
	)	
	)	
	)	
TERRY J. OWENS	)	
Administrative Patent Judge	)	

BRG:hh



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